

1. A system comprising the following:

an analog scaler configured to scale an analog signal;

an analog-to-digital converter configured to convert the scaled analog signal to a digital signal;

one or more processors; and

a memory module having stored therein microcode that is accessible and executable by the one or more processors;

wherein the microcode, when executed by the one or more processors, causes the system to perform the following:

an act of adjusting a scaling value of the analog scaler to allow the analog scaler to scale the signal using the adjusted scaling value, and to allow the analog-to-digital converter to convert the scaled signal into a digital signal representing a digital value;

an act of reading the digital value; and

an act of determining from the digital value whether the scaling value should be adjusted for the analog signal so that the scaled analog signal is within the input range, or further within the input range, of the analog-to-digital converter.

2. A system in accordance with Claim 1, wherein when it is determined that scaling value should be adjusted, the microcode is further configured to perform the following:

an act of repeating the acts of adjusting and reading with the adjusted scaling value.

3. A system in accordance with Claim 1, further comprising the following:

a plurality of analog signal sources that generate a plurality of analog signals; and  
a multiplexer that receives the plurality of analog signals, and provides the resulting multiplexed signal and least indirectly to the analog scaler,

wherein the microcode, when executed by the one or more processors, causes the system to perform the following:

an act of determining which analog signal is being provided to the analog scaler, and

an act of calculating the scaling value based upon which analog signal is being provided to the analog scaler.

4. A system in accordance with Claim 3, wherein the microcode, when executed by the one or more processors, causes the system to perform the following:

an act of instructing the multiplexer to select one of the plurality of analog signals to be provided to the analog scaler.

5. A system in accordance with Claim 4, further comprising the following:  
a plurality of sensors generating at least some of the plurality of analog signals.

6. A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a temperature sensor.

7. A system in accordance with Claim 6, wherein the plurality of sensors comprises the following:

a voltage supply level sensor.

8. A system in accordance with Claim 7, wherein the plurality of sensors comprises the following:

a receive strength sensor.

9. A system in accordance with Claim 8, wherein the plurality of sensors comprises the following:

a transmit strength sensor.

10. A system in accordance with Claim 7, wherein the plurality of sensors comprises the following:

a transmit strength sensor.

11. A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a voltage supply level sensor.

12. A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a receive strength sensor.

13. A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a transmit strength sensor.

14. A system in accordance with Claim 1, wherein the system is implemented in a laser transmitter/receiver.

15. A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 1G laser transceiver.

16. A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 2G laser transceiver.

17. A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 4G laser transceiver.

18. A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 10G laser transceiver.

19. A system in accordance with Claim 14, wherein the laser transmitter/receiver is a laser transceiver suitable for fiber channels greater than 10G.

20. A system in accordance with Claim 14, wherein the laser transmitter/receiver is an XFP laser transceiver.

21. A system in accordance with Claim 14, wherein the laser transmitter/receiver is an SFP laser transceiver.

22. A system in accordance with Claim 14, wherein the laser transmitter/receiver is a SFF laser transceiver.

23. In a system that includes an analog scaler configured to scale an analog signal, an analog-to-digital converter configured to convert the scaled analog signal to a digital signal, one or more processors, and a memory module having stored therein microcode that is accessible and executable by the one or more processors, a method for dynamically adjusting the analog-to-digital conversion, the method performed by the one or more processors in response to execution of the microcode, the method comprising the following:

an act of adjusting a scaling value of the analog scaler to allow the analog scaler to scale the analog signal using the scaling value, and to allow the analog-to-digital converter to convert the scaled analog signal into a digital signal representing a digital value;

an act of reading the digital value; and

an act of determining from the digital value whether the scaling value should be adjusted for the analog signal so that the scaled analog signal is within the input range, or further within the input range, of the analog-to-digital converter.

24. A method in accordance with Claim 23, wherein when it is determined that scaling value should be adjusted, the microcode is further configured to perform the following:

an act of repeating the acts of adjusting and reading with the adjusted scaling value.

25. The method in accordance with Claim 23, wherein the system further includes a plurality of analog signal sources that generates a plurality of analog signals, and a multiplexer that receives the plurality of analog signals, and provides the resulting

multiplexed signal and least indirectly to the amplifier, the method further comprising the following:

an act of determining which analog signal is being provided to the analog scaler; and

an act of calculating the scaling value based upon which analog signal is being provided to the analog scaler.

26. The method in accordance with Claim 25. further comprising the following:

an act of instructing the multiplexer to select one of the plurality of analog signals to be provided to the analog scaler.

27. A method in accordance with Claim 25, wherein the plurality of analog signal

sources comprises a temperature sensor.

28. A method in accordance with Claim 25, wherein the plurality of analog signal

sources comprises a voltage supply level sensor.

29. A method in accordance with Claim 25, wherein the plurality of analog signal

sources comprises a receive strength sensor.

30. A method in accordance with Claim 25, wherein the plurality of analog signal

sources comprises a transmit strength sensor.

31. One or more computer-readable media for using in a system that includes an analog scaler configured to scale an analog signal, an analog-to-digital converter configured to convert the scaled analog signal to a digital signal, and one or more processors, the one or more computer-readable media having thereon microcode that when executed by the one or more processors, is configured to cause the system to perform the following:

an act of adjusting a scaling value of the analog scaler to allow the analog scaler to scale the signal using the scaling value, and to allow the analog-to-digital converter to convert the scaled analog signal into a digital signal representing a digital value;

an act of reading the digital value; and

an act of determining from the digital value whether the scaling value should be adjusted for the analog signal so that the scaled analog signal is within the input range, or further within the input range, of the analog-to-digital converter.

32. The one or more computer-readable media in accordance with Claim 31, wherein the microcode further causes the system to perform the following when executed by the one or more processors:

when it is determined that scaling value should be adjusted, an act of repeating the acts of adjusting and reading with the adjusted scaling value

33. The one or more computer-readable media in accordance with Claim 31, wherein the microcode further causes the system to perform the following when executed by the one or more processors:

an act of determining which of a plurality of analog signals from a plurality of analog signal sources is being provided to the analog scaler through a multiplexer; and



an act of calculating the scaling value based upon which analog signal is being provided to the amplifier.

34. The one or more computer-readable media in accordance with Claim 33, wherein the microcode further causes the system to perform the following when executed by the one or more processors:

an act of instructing the multiplexer to select one of the plurality of analog signals to be provided to the analog scaler.

35. The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a temperature sensor.

36. The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a voltage supply level sensor.

37. The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a receive strength sensor.

38. The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a transmit strength sensor.